

Anatomy & Neurobiology **Student Productivity Report 2006**

Publications

Arimoto T*, **Choi DY***, Liu M, Lu X, **Nguyen XV**, Zheng N, Stewart CA, Kim HC, and Bing G, Interleukin-10 protects against inflammation-mediated degeneration of dopaminergic neurons in substantia nigra. *Neurobiology of Aging*, 2006 Jun 10 (Epub ahead of print) *: equally contributed to this article.

Vijitruth R, Liu M, **Choi DY**, **Nguyen XV**, Hunter RL and Bing G, **Cyclooxygenase-2** mediates microglial activation and secondary dopaminergic cell death in the mouse MPTP model of Parkinson's disease. *Journal of Neuroinflammation* 2006 Mar 27; 3: 6-21

S.N. Thompson, T.G. Hurst, B.M. Thompson, **Y. Deng**, and E.D. Hall
Changes in Synaptic and Axonal Plasticity following Controlled Cortical Impact Traumatic Brain Injury in Mice, *Exp. Neurol*; 201(1):253-65, September 2006

I.N. Singh*, P.G. Sullivan*, **Y. Deng**, **L.H. Mbye** and E.D. Hall
Time Course of Post-Traumatic Mitochondrial Oxidative Damage Dysfunction in a Mouse Model of Focal Traumatic Brain Injury, *J. Cereb, Blood Flow & Metab*; 26(11):1407-18, November 2006

Y. Deng, B.M. Thompson, X. Gao and E.D. Hall
Temporal Relationship of Peroxynitrite-Induced Oxidative Damage, Calpain-Mediated Cytoskeletal Degradation and Neurodegeneration after Traumatic Brain Injury, *Exp. Neurol*, in press

V. N. Nukala, Indrapal N. Singh, **Laurie M. Davis**, Patrick G. Sullivan.
Cryopreservation of Brain Mitochondria Using Dimethyl Sulfoxide: A Novel Methodology for Functional Studies, *J Neurosci Methods*. 152 (2006) 48-54.

T.C. Thomas, P.J. Kruzich, **B.M. Joyce**, K. Suchland, S.P. Surgener, **E.C. Rutherford**, D.K. Grandy, G.A. Gerhardt, P.E.A. Glaser. Dopamine D4 receptor knockout mice exhibit neurochemical changes consistent with decreased dopamine release. *Journal of Neuroscience Methods* (Article in press).

Nickell JR, Salvatore MF, Pomerleau F, Apparsundaram S and Gerhardt GA. Reduced Plasma Membrane Surface Expression of GLAST Mediates Decreased Glutamate Regulation in the Aged Striatum. *Neurobiology of Aging* (in press) (Epub ahead of print) Sept. 2006

Joyce BM, Glaser P. and Gerhardt G. Adderall® Produces Increased Striatal Dopamine Release And A Prolonged Time Course Compared to Amphetamine Isomers. *Psychopharmacology* Oct. 10, 2006.

Hunter, R.L., Dragicevic, N., **Day, K.M., Choi, D.Y.**, Liu, M., Kim, H-C., Cass, W.A., Sullivan, P.G., Bing, G. (2006). Inflammation Induces Mitochondrial Dysfunction and Dopaminergic Neurodegeneration in the Nigrostriatal System. *Journal of Neurochemistry*, (In Press).

Thompson SN, Gibson TR, Thompson BM, Y. **Deng Y.**, Hall ED. Relationship of Calpain –Mediated Proteolysis to the Expression of Axonal and Synaptic Plasticity Markers Following Traumatic Brain Injury in Mice. *Exp Neurol.* 2006Sep;201 (1) :253-65

Vijitruth, R.V., Liu, M., **Choi, D.**, Hunter, R., and Bing G. (2006) MPTP-induced Cyclooxygenase-2 Mediates Dopaminergic Neuronal Cell Death And Microglial Activation. *J. Neuroinflammation*, 3:6-22. Number 1 of the 10 most accessed articles for the past 30 days at the Journal of Neuroinflammation website.

Peer Reviewed Proceedings

Choi D., R. L. Hunter, D. M. Gash, P. G. Sullivan, H. Kim, G. Bing (2006) Striatal inflammation-induced nigral mitochondria and proteasome dysfunction in rats. *Society for Neuroscience*, No. 384.5.

R. L. Hunter, N. Dragicevic, K. Seifert, **Choi D.**, M. Liu, H. Kim, W. A. Cass, P. G. Sullivan, G. Bing (2006) Pioglitazone protects against inflammation-induced nigrostriatal mitochondrial dysfunction and dopaminergic neurodegeneration. *Society for Neuroscience*, No. 384.2.

Davis, L. Role of Ketones (β -hydroxybutyrate and Acetoacetate) and Mitochondria in Fasting-Induced Neuroprotection after Traumatic Brain Injury. University of Kentucky Neuroscience Day Symposium, Lexington Ky.

Deng Y., B.M. Thompson, T.G. Hurst and E.D. Hall
Peroxynitrite-Induced Oxidative Damage Precedes Cytoskeletal Degradation and Neurodegeneration after Traumatic Brain Injury
Poster presentation, 24th Annual National Neurotrauma Society Symposium, St. Louis, MO; July, 2006

Xing B.; D.M. Gash; G.Y. Bing*
PPARgamma Agonist Pioglitazone Protects Dopaminergic Neurons against LPS-induced Neuronal Loss by Microglial activation.

M.L. Stephens, J.E. Quintero, **P.M. Talauliker**, P. Huettl, F. Pomerleau, G.A. Gerhardt.
Second-by-second L-Glutamate Recordings in the CA1 and CA3 Regions in the Young Rat Hippocampus. International Conference on In Vivo Methods, Monitoring Molecules in Neuroscience, Sardegna, Italy 2006

J.E. Quintero, **Stephens, M.L.**, Day, B.K., Grondin, R., Zhang, Z., Huettl, P., Pomerleau, F., Gash, D.M., Gerhardt, G.A. Second-by-second Glutamate Neurotransmission Measurements in the Non-Human Primate. International Conference on In Vivo Methods, Monitoring Molecules in Neuroscience, Sardegna, Italy 2006

P.M. Talauliker, **E.C. Rutherford**, F. Pomerleau, P. Huettl, **M.L. Stephens**, J.R. Nickell, J.T. Hastings, I. Strömberg, G.A. Gerhardt. Multisite Microelectrode Array Studies of L-Glutamate Dynamics in the Rodent Hippocampus. International Conference on In Vivo Methods, Monitoring Molecules in Neuroscience, Sardegna, Italy 2006

Mbye L. H, I.N. Singh, Carrico K. M, Sullivan P.G, Springer J.E, Hall E.D. Protection of Acute Mitochondrial Dysfunction by NIM811, A Non-immunosuppressive Cyclosporin A Analog Following Focal Traumatic Brain Injury in Mice. Poster Presentation, 24th Annual National Neurotrauma Society Symposium, St. Louis, Missouri – July 2006

Mbye L.; I.N. Singh, Carrico K. M, Sullivan P.G, Springer J.E, Hall E.D. Protection of Acute Mitochondrial Dysfunction by NIM811, A Non-immunosuppressive Cyclosporin A Analog Following Focal Traumatic Brain Injury in Mice. Poster Presentation, Kentucky Spinal Cord and Head Injury Research Trust Symposium, Lexington, Kentucky – June 2006

Talauliker P.; ‘Microelectrode array studies of L-glutamate dynamics in the rodent hippocampus’, In Vivo Methods in Neuroscience, Sardegna, Italy, May 2006

Garcia M. ; V. Bondada, R. Badagu, K. K. Naga, **A. Joshi**, J.W. Geddes, “mu-calpain (calpain 1) is located in the mitochondrial intermembrane space” Society for Neuroscience, Atlanta, GA 2006

Gilmer, L.K., Roberts, K.N., Joy, K.M, and Scheff, S.W. Analysis of mitochondrial bioenergetics one and three hours after cortical contusion injury in Sprague Dawley rats: Atlanta, GA. October 2006.

Gilmer, L.K., Roberts, K.N., Joy, K.M, and Scheff, S.W. The hippocampus shows no age-related differences to focal cortical contusion in the Fisher 344 rat: St. Louis, MO. July 2006

Joshi A., Calpain-1 is located in the mitochondrial intermembrane space **M. Garcia**, V.Bondada, **A. Joshi**, J.W. Geddes Society for Neurosciences Meeting, Atlanta, GA, 2006

Gates, J., Nicotinic Regulation of the Neuronal Sensitive Choline Transporter in the Mouse Striatum Society of Neuroscience Conference May 2006

National or Regional Presentations

Erica Rockabrand, Natalia Slepko, Antonello Pantalone, **V. N. Nukala**, Aleksey Kazantsev, J. Lawrence Marsh, Patrick G. Sullivan, Joan S. Steffan, Stefano L. Sensi, and Leslie Michels Thompson. The 1st 17 amino acids of Huntingtin modulate its sub-cellular localization, aggregation and effects on calcium homeostasis, Hum Mol Genet. 2006 Nov 29.

Davis, L. Role of Ketones (β -hydroxybutyrate and Acetoacetate) and Mitochondria in Fasting-Induced Neuroprotection after Traumatic Brain Injury. National Neurotrauma Society meeting in St. Louis, MO

Yeng Y., B.M. Thompson, T.G. Hurst and E.D. Hall
Peroxynitrite-Induced Oxidative Damage Precedes Cytoskeletal Degradation and Neurodegeneration after Traumatic Brain Injury
Poster presentation, 12th Annual Kentucky Spinal Cord & Head Injury Symposium (KSCHIRT), Lexington, KY; June, 2006

Richardson A.; The Effects of Uncoupling in an in vitro Model of Excitotoxicity Presented in the Medical Center at the University of Kentucky
Sponsored by the Anatomy and Neurobiology Department Lexington, KY
April, 2006

Richardson A.; A Screen for Novel Agents in Treatment of Parkinson's Disease
Poster presentation at the Red Mile: Orientation for Integrated Biomedical Sciences Program Department of Anatomy & Neurobiology, Lexington, KY August, 2006

Mbye L.; I.N. Singh, Carrico K. M, Sullivan P.G, Springer J.E, Hall E.D. Protection of Acute Mitochondrial Dysfunction by NIM811, A Non-immunosuppressive Cyclosporin A Analog Following Focal Traumatic Brain Injury in Mice. Poster Presentation, Annual Student Orientation, Dept. of Anatomy & Neurobiology, University of Kentucky College of Medicine – August 2006

Talauliker P.; Surface analysis of ceramic-based microelectrode arrays using scanning electron microscopy', Bluegrass Neuroscience Day, Lexington, Kentucky, March 2006

Theresa Currier Thomas, BS; Matt Joyce, Ph.D.; David K. Grandy, Ph.D.; Greg A. Gerhardt, Ph.D.; Paul E. A. Glaser, M.D., Ph.D. Dopamine and Glutamate Interactions in Dopamine D4 Receptor Knockout Mice. American Academy of Child and Adolescent Psychiatry, San Diego, October

Summary

Item	Number
Refereed Publications	12
Peer-reviewed proceedings	16
National or Regional Presentations	8
Juried Creative Projects	0